

**REMARKS**

Claims 1-14 are pending in this application. By this Amendment, claim 15 is canceled, and claims 1, 12 and 14 are amended. No new matter is added by this amendment.

**I. Priority**

Applicants appreciate the acknowledgement of foreign priority documents under 35 U.S.C. §119(a)-(d).

**II. Claim Objections**

Claim 1 is objected to because of a typographical error. The requested correction has been included by this claim amendment. Withdrawal of the objection is respectfully requested.

**III. Claim Rejections Under 35 U.S.C. §112**

Claims 12 and 15 are rejected under 35 U.S.C. §112, second paragraph. Claim 12 is rejected because it does not clearly describe whether a component or a design are being optimised. Claim 12 is thus amended to recite that a design is optimised. Claim 15 is canceled in this Amendment. Therefore, the claim rejection is moot.

Withdrawal of the rejections under 35 U.S.C. §112, second paragraph, is respectfully requested.

**IV. Claim Rejections Under 35 U.S.C. §101**

Claim 14 is rejected because the claimed computer program is not recited as being stored on an appropriate computer readable medium. Claim 14 is amended accordingly. Withdrawal of the rejection under 35 U.S.C. §101 is therefore respectfully requested.

**V. Claim Rejections Under 35 U.S.C. §102**

Claims 1-8, 14 and 15 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,434,278 to Hashimoto.

The Office Action asserts that Hashimoto teaches a generation of three-dimensional (3D) models of objects defined by two-dimensional (2D) image data. However, Applicants do not claim the generation of three-dimensional models from two-dimensional image data. The three-dimensional computer model recited in step (b) of claim 1 is derived independently from the two two-dimensional data sets. Support for the fact that the three-dimensional data is obtained independently from the two-dimensional data can be found in the specification on page 9, second full paragraph.

As admitted in the Office Action, Hashimoto teaches a method of obtaining three-dimensional data from two-dimensional data. The three-dimensional computer model recited in paragraph (b) of claim 1 is not derived from two-dimensional data sets, for example, the two-dimensional data sets recited in paragraph (a) of claim 1. Therefore, Hashimoto fails to anticipate all of the claimed subject matter of claim 1.

In addition, paragraph (d) of claim 1 recites "identifying co-ordinates common to the at least two 2D data sets and the 3D computer model." However, Hashimoto specifically discloses that "although reference points 71 and 72 represent the same point on the object, they have different 2D coordinates. This is because each 2D input image uses its own u-v coordinate system . . . which is independent of the other input images' coordinate systems." (col. 4, lines 1-7). Hence, Hashimoto does not identify coordinates common to the at least two 2D data sets and the 3D computer model as per paragraph (d) of claim 1.

The common reference points identified in Hashimoto are not the same as the co-ordinates of a point in the 3D model. Hashimoto defines co-ordinates for each two-dimensional image. In this application, co-ordinates define the position in the 3D model, such that the 2D data sets and 3D model have the same co-ordinates. Therefore, Hashimoto does not anticipate the subject matter claimed in paragraphs (d) or (e) of claim 1.

Paragraph (f) of claim 1 recites "resolving ambiguities between values from the at least two 2D data sets assigned to common nodes." The Office Action alleges that the subject matter of paragraph (f) of claim 1 is anticipated by Hashimoto. In particular, the Office Action cites col. 5, lines 64-66, which discloses, "the initial approximations of reference point locations can be improved by using an initial estimation model reflecting known properties of the object." However, improving an initial estimation model in no way teaches how to resolve ambiguities in values between 2D data sets.

Moreover, the Office Action alleges that paragraph (g) of claim 1 is anticipated by Hashimoto. Specifically, the Office Action refers to col. 7, lines 61-67. However, that paragraph refers to rendering an improved 3D image of a detailed reference model, for example, a human head. Paragraph (g) of claim 1 recites the optimisation of the design of a model. In the parlance of Hashimoto, this would mean that the design of the human head was optimized. Accordingly, Hashimoto does not teach the subject matter of paragraph (g) of claim 1.

Claims 2-8 and 14 depend from claim 1. For the reasons set forth above, Applicants assert that claim 1 is in condition for allowance. Therefore, the dependent claims are allowable as well. Withdrawal of the rejections under 35 U.S.C. §102(b) is respectfully requested.

#### **VI. Claim Rejections Under 35 U.S.C. §103**

Claims 9-11 are rejected under 35 U.S.C. §103(a) over Hashimoto as applied to claim 1 above, and further in view of U.S. Patent Application Publication No. US2002/0088600 to Beeck et al. ("Beeck"). This rejection is traversed.

Beeck discloses an apparatus and a process for casting a shaped part for the production of a turbine blade. A turbine stator segment and a turbine blade are claimed in claims 10 and 11, respectively. However, for the reasons set forth above, Hashimoto fails to

anticipate or render obvious the subject matter claimed in claim 1. Beeck does not cure this deficiency. Beeck does not teach or provide motivation for modifying Hashimoto to include the subject matter claimed in this application. Therefore, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

**VII. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-14 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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